=> d his

(FILE 'HOME' ENTERED AT 15:09:50 ON 06 JUN 2006)
FILE 'CA' ENTERED AT 15:09:58 ON 06 JUN 2006

L1 141 S (AUTOMAT? OR COMPUTER OR PROCESSOR OR MICROPROCESSOR)(10A)(SPIKE OR STANDARD)(4A)(DILUT? OR PREPAR? OR MIX?)OR(SPIKE OR STANDARD)(4A)(AUTODILUT? OR AUTOPREPAR? OR AUTOMIX?)
L2 129281 S PROCESS(4A)(MONITOR? OR CONTROL?)
L3 20695 S L2 AND(AUTOSAMPL? OR AUTO SAMPL? OR ONLINE OR ONSTREAM OR INLINE OR REAL TIME OR AUTOMAT?)
L4 321 S L3 AND MASS SPECTRO?
L5 43 S L4 AND(SPIKE OR STANDARD OR DILUT? OR CALIBRAT?)
L6 1577 S L3 AND(AUTOMAT? OR COMPUTER OR PROCESSOR OR MICROPROCESSOR OR AUTO)(10A)(CALIBRAT? OR SPIKE OR STANDARD OR DILUT? OR PREPAR?)
L7 57 S L6 AND(FERMENT? OR (PLATE OR PLATING OR ETCH?)(5A)(TANK OR BATH OR VESSEL OR CONTAINER))
L8 341 S L6 AND(BIOCHEMICAL OR MIXTURE OR MIXING OR NONMETAL? OR NITRIC OR SAMPLE OR DOSING OR MODULAR OR BIOTECH? OR 188RE OR MASS SPECTRO?)
L9 551 S (AUTOMAT? OR COMPUTER OR PROCESSOR OR MICROPROCESSOR)(L)(SPIKE OR STANDARD)(4A)(DILUT? OR PREPAR?)
L10 55 S L9 AND MASS SPECTRO?
L11 591 S L1,L5,L7-8,L10
L12 556 S L11 NOT(PCR OR DISTILL? OR SCRAP OR ORE OR HIV OR INCINERAT?)
L13 3 S L11 NOT L12 AND(BROMINE OR NONMETAL?)
L14 510 S L12 NOT(LIQUID WATER OR LIME MILK OR VINYL OR SHEET OR DRUM OR X RAY OR STEEL RING)
L15 480 S L14 NOT(BRAND OR PEPTIDE SYNTHESIS OR FTIR OR METROLOGY OR TRIPLEX OR GLAZE OR BINDER OR SEWAGE OR IMMUN?)
L16 3 S L14 NOT L15 AND(ELECTROLYT? OR SEMICONDUCTOR)
L17 469 S L15 NOT(AUTOMAT?(W)(GAIN OR TEMP CONTROL)OR MEMBRANE INLET OR BIOTIN? OR NITRIDING OR DSC OR KAPPA)
L18 427 S L17 NOT(PLANT CONTROL OR SMOKE OR LIBRARY OR NEUTRON OR SLAK? OR SPUTTER? OR GAS CHROMATOGR?)
L19 433 S L13,L16,L18

=> d bib,ab l19 1-433

L19 ANSWER 93 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 131:308449 CA
TI Technical Note: Modifying a standard HPLC **autosampler** for on-line **process monitoring**
AU Zerihun, A.; DeMuro, R.; Goyal, S.; BassirlRad, H.
CS University of Illinois at Chicago, Chicago, IL, 60607, USA
SO LC-GC (1999), 17(9), 862, 864
AB **Autosamplers** for most HPLC systems share characteristic design features: enclosure in relatively small units and sampling operations performed with **samples** placed inside the **autosampler** housing. Although these features suffice for most HPLC applications, they limit the versatility of the **autosampling** operation when **sample** containers cannot fit inside the unit. In this tech. note, the authors describe a simple modification of the **std**. HPLC **autosampler** flow path that enables **automated** sampling and anal. of **samples** outside the **autosampler** unit. An added benefit of the modified configuration is that it does not

compromise operation in the std. mode, and switching between the two configurations is easy.

L19 ANSWER 96 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 131:230350 CA
TI Apparatus and process for the continuous **preparation** of a fluid with **automatic** adjustment of the properties thereof
IN Batista Auad, Rogerio
PA Renner Herrmann S.A., Brazil
SO PCT Int. Appl., 22 pp.

PI	WO 9948602	A1	19990930	WO 1999-BR21	19990326
	US 6533449	B1	20030318	US 2001-647009	20010212
PRAI	BR 1998-1134	A	19980326		

AB An app. and process for the continuous prepn. of a **mixt**. of two or more fluids, such as paints, enamels and dyes, to produce a resulting fluid having desired pre-defined phys. properties, such as a particular color, opacity, hue, satn., luminosity, d. and/or viscosity, with **automatic** adjustment of the phys. characteristics of the resulting fluid **mixt**. The app. comprises storage devices, a mixer, a fluid supply means, a detector, and a control device. The control device is adapted to receive a signal from the detector, the signal representing the detected phys. characteristic of a fluid supplied by the fluid supply means, and to compare the detected phys. characteristic with a desired phys. characteristic of the fluid. Depending on the comparison between detected and desired phys. characteristics, a fluid supply control signal is sent to the fluid supply means which varies the proportion of each component of the fluid supplied to the **mixing** means, until the detected phys. characteristic is substantially the same as the desired phys. characteristic.

L19 ANSWER 106 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 130:147958 CA
TI Device and method for automatic preparation of sample solution.
IN Morioka, Akihiro; Yamanaka, Kazuo
PA Yokogawa Analytical Systems K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.

PI	JP 11006788	A2	19990112	JP 1997-175146	19970617
PRAI	JP 1997-175146		19970617		

AB The title device is used for **automatic** sample soln. prepn. such as diln. before anal. by inductively coupled plasma **mass spectrometry** or at. emission spectrometry. The device comprises a sample soln. container, a diln. soln. container, a mixer, sample soln. and diln. soln. supply means, and a means to calibrate the final concn. using the internal **std**. stored in the **diln**. soln.

L19 ANSWER 120 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 128:187964 CA
TI Multipoint calibration from one **standard** solution and **automatic dilution** of overrange samples for flame atomic absorption spectrometry
AU Frary, Brian D.
CS Varian Australia Pty Ltd., Victoria, 3170, Australia
SO Analyst (Cambridge, United Kingdom) (1998), 123(2), 233-237
AB A modified peristaltic pump sample introduction system for flame at.

absorption spectrometry (AAS) is described. T... the device provides automatic instrument calibration from a single ... bulk std. The modifications overcome the difficulties previous... assocd. with the use of peristaltic pumps. Single and dual pump systems ... were evaluated for normal and std. addn. calibration. Data from both ... indicate that accuracy and precision are as good as, or better than, ... that achieved with manual std. prepn. Automatic overrange sample dil... is also provided by the system.

L19 ANSWER 138 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 125:346272 CA
TI The Automatic Dosing System (A.D.S.)
AU Boeri, Enrico
CS Italy
SO Laboratorio 2000 (1994), 8(2), 12-14
LA Italian
AB An automatic dosing system makes possible almost complete automation of the onerous lab. work of prepn. of solns. of known strength or concn. The **automatic** dosing system can be used for the **prepn**. of **std**. solns. for HPLC, GC, TLC, AAS, MS, CZE, SFC, etc., as well as mobile phases, buffers, sample analyte solns., diln. of liqs., and electrophoretic gel prepn.

L19 ANSWER 147 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 123:283670 CA
TI Development of an extremely flexible **automatic** analyzer with integrated biosensors for **online control** of **fermentation processes**
AU Schuhmann, Wolfgang; Wohlschlaeger, Heidi; Huber, Johanna; Schmidt, Hanns-Ludwig; Stadler, Herbert
CS Lehrstuhl Allgemeine Chemie Biochemie, Technische Univ. Muenchen, Freising-Weihenstephan, 85350, Germany
SO Analytica Chimica Acta (1995), 315(1-2), 113-22
AB The development of a highly flexible sequential-injection system for the **online control** of **fermn**. **processes** is described. The developed system shows a significantly improved flexibility and adaptability to the needs of a particular **fermn**. **process** to be **monitored** as compared with conventional flow-injection systems. The no. of necessary hardware components was also drastically decreased, and the min. injection vol. decreased to 3-5 μL, allowing improved diln. of an injected **sample** plug and improved **mixing** of coinjected reagents. A diln. factor can be adjusted to between 1 and 100 due to controlled dispersion of the injected **sample** plug within the tube system by choosing an appropriate injection vol. Due to the sym. design of the injection manifold and the versatile control software, complex injection profiles can be obtained that are necessary to coinject a **sample** together with a reagent or a **sample** together with 1 or 2 std. solns. for immediate recalibration. The system is fully **automated**, and the specially developed software package comprises **automatic calibration** and recalibration with ≤5 **std**. solns., **real-time** calcn. of the actual concn. values based on the most recent calibration data, documentation of the **fermn**. course, and injection of **samples** from ≤4 sampling sites with variable time basis.

L19 ANSWER 152 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 122:329420 CA
TI A PC-controlled module system for **automatic sample preparation** and analysis
AU Einarsson, Oesten; Hansen, Lars
CS Analys Modul AB, Sollentuna, S191 62, Swed.
SO Journal of Automatic Chemistry (1995), 17(1), 21-4
AB A simple **automatic** anal. system, consisting of sep. modules, for liq. chromatog. was constructed. The different parts of the **automatic** machine are an **auto sampler**, an auto dispenser, a selector valve with eight channels, a heater/cooler, a **mixing** chamber and a pressure air driven injector valve. The **process** was **controlled** by a PC from an easily changeable run protocol. The system was applied to anal. of primary amines. The anal. was performed as a pre-column derivatization reaction of the amines and sepn. by isocratic reversed-phase HPLC with fluorescent detection. Reproducibility and anal. precision were studied. Comparison between **automatically** and manually made derivatization reaction and injection was also made. The **automatic** system was easy to handle, cost-effective and gave good reproducibility.

L19 ANSWER 165 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 120:328032 CA
TI Improved **process control** with **onstream** analysis at Pasminco Metals - EZ, Hobart Refinery
AU Champion, B R.
CS Site Instrum. Eng., Pasminco Met. - EZ, Hobart Refin., Hobart, 7001, Australia
SO Publications of the Australasian Institute of Mining and Metallurgy (1993), 7/93(WORLD ZINC '93), 257-65
AB The development of reliable and accurate soln. sampling systems plus **online** at. absorption spectrophotometers and voltammetric analyzers at the title Zn refinery, led to extensive implementation of **onstream** anal. throughout the hydrometallurgical circuit. These systems complement industrial auto-titrator and colorimetric analyzers and with the comprehensive use of a powerful integrated distributed control system, provide extensive monitoring and control of all the important in soln. parameters for the plant. The overall system reliability and accuracy is such that many daily composite plant **samples** are no longer analyzed off-line. Operator sampling also was decreased, and in 2 places, **auto**-titrators with **automatic sample** pretreatment were installed for **prepg**. and analyzing **samples** collected by operators.

L19 ANSWER 172 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 120:181699 CA
TI Flow injection: the ultimate approach to **automation** in analytical atomic spectroscopy
AU Welz, Bernhard; Sperling, Michael
CS Dep. Appl. Res., Bodenseewerk Perkin-Elmer GmbH, Uberlingen, W-7770, Germany
SO Pure and Applied Chemistry (1993), 65(12), 2465-72
AB A review, with 23 refs., is given. **Automation** in anal. systems is reviewed, esp. with regard to the **prepn**. and anal. of solns. Flow injection anal. (Fl) lends itself to these needs as it enables many

procedures such as **diln**., reagent addn., derivatization etc to be **automated**. Fl is now used for **automating** chem. reactions such as solid extn. pptn. and copptn. An advantage of Fl is that it is used successfully even in nonequil. conditions and with a suitable data management package allows single ref. soln. calibration. It is 1 of the few methods available capable of addressing total **automation** form **sample prepn**. to data manipulation.

L19 ANSWER 183 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 120:105037 CA
TI Development of a process-FIA system using mediator-modified enzyme electrodes
AU Gruendig, B.; Strehlitz, B.; Kotte, H.; Ethner, K.
CS Inst. Chemo- Biosensorik, Westfaelische Wilhelms-Univ. Muenster, Muenster, D-48149, Germany
SO Journal of Biotechnology (1993), 31(3), 277-87
AB A computer-**controlled process**-FIA system for **monitoring** industrial bioprocesses was developed using mediator-modified enzyme electrodes. The single-line FIA system was modified by replacing the **mixing** coil with a flexible operating **sample** diln. unit. By this way, the analyzer offers **automatic** procedures for self-**calibration** '**real-time**' **diln**. and recalibration based on the current analyte concn. In regard to the dynamic range of the sensors, the FIA system is able to self-adapting to any analyte concn. of the bioprocess. The technique was tested for control of glucose during microbial fed-batch processes of gluconic acid prodn.

L19 ANSWER 206 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 117:244888 CA
TI Determination of (22R,S)budesonide in human plasma by automated liquid chromatography/thermospray **mass spectrometry**
AU Lindberg, Claes; Blomqvist, Ann; Paulson, Jan
CS Astra Draco AB, Lund, S-221 00, Swed.
SO Biological Mass Spectrometry (1992), 21(11), 525-33
AB (22R,S)Budesonide was isolated from human plasma by solid-phase extn. Switching from reversed-phase conditions during sample application and washing to normal-phase conditions during elution afforded a very clean ext. Budesonide was derivatized with acetic anhydride to form the 21-acetyl deriv. before anal. by reversed-phase liq. chromatog. combined with thermospray **mass spectrometry**. Deuterium-labeled budesonide was used as internal std. **Std**. samples **prepd**. in human albumin soln. were used for the calibration curve. An **automated** liq. chromatog./**mass spectrometry** system, allowing unattended overnight operation, was used for routine anal. The recovery of budesonide from plasma was 88.9 ± 5.9% (mean ± SD) and the method was linear over the range 0.30-30 pmol (amt. analyzed), corresponding to plasma concns. of 0.10-10 nmol l-1. Budesonide could be measured down to 0.10 nmol l-1 with a within-day variation of 10-18% (CV). The error was less than ±15% at 0.10 nmol l-1 and less than ±7% at concns. of 0.20 nmol l-1 or higher. The total imprecision between days was 9% (CV) at a concn. of 0.30 nmol l-1.

L19 ANSWER 211 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 117:123555 CA

TI **Automatic calibration** and **dilution** in unsegmented flow systems
AU Agudo, M.; Rios, A.; Valcarcel, M.
CS Dep. Anal. Chem., Univ. Cordoba, Cordoba, E-14004, Spain
SO Analytica Chimica Acta (1992), 264(2), 265-73
AB An open-closed flow system allowing variable vols. of **std. calibration** soln. to be introduced and **automatically dild.** was used to carry out **automatic calibrations** in unsegmented flow systems. A diln. loop was thus established in which its final homogenized vol. was used as dild. **sample** or calibrant soln. in the main flow system. The performance of the diln. loop was tested both in injection and in completely continuous flow systems and was found to be appropriate for anal. **process control**.

L19 ANSWER 251 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 111:108220 CA
TI Examination of the **automated** solute-independent **calibration** technique
AU Renn, Curtiss N.; Synovec, Robert E.
CS Cent. Process Anal. Chem., Univ. Washington, Seattle, WA, 98195, USA
SO Analytical Chemistry (1989), 61(17), 1915-21
AB The solute independent calibration (SICAL) method is used to simultaneously measure analyte concn. and to provide information, namely, the equiv. ionic conductance, leading to solute identification. The SICAL method was fully **automated** for sampling, chromatog. sepn., data collection, and anal. and applied to ion chromatog. using cond. detection. Theor. predictions for the precision and accuracy of the fully **automated** method are presented and exptl. validated. The **sample** was varied with respect to analyte concn. and identity, with the **automated** method successfully monitoring **real-time** changes. Over a 24-h period under steady-state **sample** conditions (26 measurements), the relative std. deviation of concn. was 2.5% for fluoride and 3.9% for chloride, while the relative std. deviation of the SICAL calcd. equiv. ionic conductance was 0.9% for fluoride and 1.7% for chloride. Precision of **automated** injection for a single chromatog. system over the 24-h period was better than 0.7%. Potential use of the method as a **process monitor** is discussed.

L19 ANSWER 271 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 107:45987 CA
TI **Automatic** on-line chemistry monitoring system having improved **calibration** unit
IN Carlson, Gerald Leroy
PA Westinghouse Electric Corp., USA
SO Eur. Pat. Appl., 67 pp.
PI EP 225115 A2 19870610 EP 1986-309013 19861118
PRAI US 1985-799038 A 19851118
AB A monitoring system for continuous, **automatic**, **online** monitoring of power plant steam cycle water supplied as **samples** from various points in the power plant steam cycle includes a control unit with a feedback loop. An ion chromatog. unit provides semi-continuous monitoring of a selected influent fluid **sample** stream. A calibration unit including a conditioning unit creates a pressure differential in the **sample** stream and utilizes the pressure differential to inject a mixed std. soln. into the influent fluid **sample** stream, and to provide a conditioned influent **sample** stream having predetd. chem. characteristics; calibration is done

with respect to the predetd. chem. characteristics of the conditioned fluid **sample** stream. The ion chromatog. unit is calibrated with respect to the predetd. chem. characteristics of the selected conditioned fluid **sample** supplied thereto.

L19 ANSWER 283 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 105:81368 CA
TI **Plating bath** concentration control
IN Arbach, Gary Vincent; Bindra, Perminder Singh; Light, David Noel; Rath, David Lee; Roldan, Judith Marie
PA International Business Machines Corp. , USA
SO Eur. Pat. Appl., 18 pp.
PI EP 180090 A2 19860507 EP 1985-113091 19851015
PRAI US 1984-666512 A 19841030
AB A system for **automatically** monitoring and controlling the concn. of org. additives (e.g., thiourea, 2-benzothiazole thiol, etc.) for electroless and electrolytic plating (e.g., in printed circuit board, magnetic head, and magnetic disk fabrication) is described. The system includes a sensor, which may be a rotating disk electrode, for detg. the potential assocd. with the steady-state plating current.

L19 ANSWER 315 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 99:110431 CA
TI Graphite tube atomizer performance for water analysis
AU Shrader, Douglas E.; Voth, Lucinda M.; Covick, Lawrence A.
CS Varian AA Resourc. Cent., USA
SO American Laboratory (Shelton, CT, United States) (1983), 15(8), 66-70
AB The graphite thermal atomizer with a programmable sample dispenser was highly effective in detg. Al, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Ni, Se, V, and Ba in water samples at the μg/L concn. level. The app. provides **automatic** capabilities of **std**. and sample **diln**., calibration, and matrix modification, which saves time and gives more accurate results.

L19 ANSWER 321 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 98:154354 CA
TI A robotic approach to **automated samples preparation**
AU Hawk, G. L.; Little, J. N.; Zenie, F. H.
CS Zymark Corp., USA
SO International Laboratory (1982), 12(7), 48, 50-2, 54-6
AB The microprocessor-controlled Zymate lab. **automation** system combines robotics and lab. stations to **automate sample prepn**. procedures for instrumental anal. The lab. robot transfers **samples** from station to station. When the **sample** prepn. procedure is completed, the robotic arm either introduces **samples** directly into the anal. instrument or places them in a carousel or rack, for subsequent anal. The advantages of the robotic approach to **sample** prepn. are discussed.

L19 ANSWER 325 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 98:81257 CA
TI Design considerations and applications of **mass spectrometers** for **process** measurement and **control**
AU Whistler, W. J.; Schaefer, K.

CS Aeorsp. Div., Perkin-Elmer Corp., Pomona, CA, 91767, USA
SO International Journal of Mass Spectrometry and Ion Physics (1983), 46, 159-62
AB A multiple collector process **mass spectrometer** with unique drift stability characteristics and a newly developed **microprocessor** based controller for **automatic calibration** and other essential functions is described and typical applications are presented.

L19 ANSWER 327 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 97:202977 CA
TI **Automatic** chemistry systems for water analysis - a new approach to an old analytical problem
AU Husband, T. A.; Cottrell, C. T.
CS Pye Unicam Ltd., Cambridge, UK
SO Indian Chemical Manufacturer (1982), 20(7), Paper No. 8, 4 pp.
AB The combination of a Pye Unicam AC1 (a single channel discrete **automatic** chem. anal. system with the ability to perform **sample diln.**, reagent addn., **mixing**, incubation, and transfer of the processed soln. to a spectrophotometer for measurement) with a single beam UV or visible SP 6-type grating spectrophotometer was a cost- and applications effective **automatic** anal. system for a large no. of water **samples**. System advantages included low cross-contamination, good precision, high-**sample** throughput, wide linearity, const. baselines, fast determinant changearounds, and a lower cost than conventional continuous flow systems.

L19 ANSWER 334 OF 433 CA COPYRIGHT 2006 ACS on STN
AN 97:20191 CA
TI Trace metal analysis of biological samples with the GTA-95 graphite tube atomizer
AU Brodie, Keith; Routh, Michael W.
CS Varian Instrum. Group, CA, USA
SO VIA, Varian Instrument Applications (1982), 16(1), 18-20
AB The anal. parameters for the detn. of trace metals such as Al and Mn in serum, Pb in whole blood, and Cr in urine by at. absorption spectrophotometry by using the Varian GTA-95 graphite tube atomizer were examd. For the detn. of Al and Mn in serum, the samples were dild. 1:1 with an aq. Triton X 100 soln. and calibrations were established by the std. addns. method. **Stds. prepd. automatically** with the GTA-95 sampler compared well with those prepd. manually. For the detn. of Pb in whole blood, the samples were dild. with an equal vol. of 2% Triton X 100 and the std. addns. calibration was again necessary. To facilitate ashing, air was introduced into the graphite tube and the precision of the method was good. For the detn. of Cr in urine, automated addns. prepd. in the graphite tube were used as well as a 4-point std. addns. calibration. The ash temp. and time were crit. for efficient removal of the matrix without loss of Cr.

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STN INTERNATIONAL LOGOFF AT 15:48:56 ON 06 JUN 2006